

We claim:

1 1. A method for repeat transmission of messages in a centrally controlled  
2 communication network, in which several terminals (T1,T2,...) are simultaneously  
3 operable, said method comprising:

4 a) transmitting each of said messages only once from the central station  
5 for reception by each of said terminals (T1,T2,...) of a participating group and  
6 assigning a respective identifier to the corresponding messages to detect loss of  
7 or error in one of the messages;

8 b) as soon as one of said terminals (T1,T2,...) has detected the error in or  
9 the loss of one of the messages, said one of said terminals detecting said error  
10 or said loss issues a repeat request for said one of said messages over a  
11 communication link between the central station and the terminal (T1,T2,...)  
12 detecting said error or said loss; and

13 c) said central station (ZE) repeats said one of said messages in  
14 response to the repeat request within a predetermined time interval.

1 2. The method as defined in claim 1, wherein said centrally controlled  
2 communication network is a radio network.

1 3. The method as defined in claim 1, wherein said communication link is  
2 a point-to-point link.

1 4. The method as defined in claim 1, wherein said participating group consists of  
2 all of said terminals in said communication network.

1 5. The method as defined in claim 1, wherein said participating group consists of  
2 less than all of said terminals in said communication network.

1 6. The method as defined in claim 1, wherein each of said terminals of said  
2 participating group is assigned a temporary address.

1 7. The method as defined in claim 1, further comprising assigning at least one  
2 predefined address to each of said terminals of said participating group for  
3 broadcast and/or multi-cast operation.

1 8. The method as defined in claim 1, wherein said respective identifiers  
2 comprise corresponding sequence numbers (SN) assigned to said  
3 corresponding messages, said repeat request includes said sequence number  
4 (SN) corresponding to said one of said messages detected as lost or erroneous  
5 and said central station (ZE) repeats said one of said messages with said  
6 sequence number in said repeat request.

1 9. The method as defined in claim 8, further comprising erasing or not using  
2 another of said messages received by said one of said terminals detecting said

3 loss or said error when said another of said messages contains said sequence  
4 number of a previously correctly received message.

1 10. The method as defined in claim 1, wherein said central station (ZE) repeats  
2 said one of said messages for only a predetermined number of repetitions.

1 11. The method as defined in claim 10, wherein said predetermined number of  
2 said repetitions is determined by said predetermined time interval and is at least  
3 as great as twice a total number of said sequence numbers.

1 12. The method as defined in claim 10, wherein said predetermined number of  
2 said repetitions is limited by said one of said terminals detecting said loss or  
3 said error.

1 13. The method as defined in claim 1, wherein a respective position in said  
2 predetermined time interval is determined according a pre-established number of  
3 repeated messages and on reaching a maximum value of said pre-established  
4 number of said repeated messages an initial position in said predetermined time  
5 interval is again reached.

1 14. The method as defined in claim 1, further comprising storing transmitted  
2 messages in a memory for repetition of said transmitted messages as needed

3 and controlling said memory so that a newly transmitted message overwrites an  
4 oldest one of said transmitted messages stored in said memory.

1 15. The method as defined in claim 1, further comprising issuing a positive  
2 acknowledgement (ACK) of each correctly received one of said messages or  
3 only issuing a negative acknowledgment (NACK) of each lost or erroneous one  
4 of said messages detected in order to inform said central station (ZE) whether or  
5 not message repetition is necessary.

1 16. The method as defined in claim 1, further comprising acknowledging only  
2 said identifier in order to inform said central station (ZE) whether or not message  
3 repetition is necessary.

1 17. The method as defined in claim 8, further comprising acknowledging only at  
2 least one of said sequence numbers in order to inform said central station (ZE)  
3 whether or not message repetition is necessary.

1 18. The method as defined in claim 8, wherein a plurality of said sequence  
2 numbers of all previous ones of said messages since an immediately preceding  
3 acknowledgment are positively or negatively acknowledged in order to inform  
4 said central station (ZE) whether or not message repetition is necessary.